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Cotton crop cultivation oriented semantic framework based on IoT smart farming application (Article)

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Abstract

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The fact that each technological concept comes from the advances in the research and development, Internet of Things (IoT) grows and touches virtually every area of human activities. This has yielded the possibility of analyzing various types of sensors-environment from any kind of IoT platform. The existing IoT platforms focuses more on the area related to urban infrastructure, smart cities, healthcare, smart industry, smart mobility and much more. In this paper, we are focusing on the architecture of designing the application of IoT based solution in agriculture with more specific to Cotton farming. Our specific approach on farming is relevant to cotton crops cultivation, irrigation and harvesting of yields. In the context of cotton crops cultivation, there are many factors that should be concerned which includes weather, legal regulation, market conditions and resource availability. As a result, this paper presents a cotton crops cultivation oriented semantic framework based on IoT smart farming application which supports smart reasoning over multiple heterogenous data streams associated with the sensors providing a comprehensive semantic pipeline. This framework will support large scale data analytic solution, rapid event recognition, seamless interoperability, operations, sensors and other relevant features covering online web based semantic ontological solution in an agriculture context. © BEIESP.

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